IN THE CLAIMS:

Please substitute the following claims for the same numbered claims in the application.

Claim 1 (Previously Presented): A method for evaluating and outputting a final clustering solution for a plurality of multi-dimensional data records, said data records having multiple, heterogeneous feature spaces represented by feature vectors, said method comprising:

defining a distortion between two feature vectors as a weighted sum of distortion measures on components of said feature vectors;

clustering said multi-dimensional data records into k-clusters using a convex programming formulation;

selecting feature weights of said feature vectors, and

minimizing distortion of said k-clusters.

Claim 2 (Previously Presented): The method according to claim 1, wherein said selecting of feature weights is optimized by an objective function to produce said final clustering solution that simultaneously minimizes average intra-cluster dispersion and maximizes average inter-cluster dispersion along all said heterogeneous feature spaces.

Claim 3 (Original): The method according to claim 1, wherein said clustering includes initially applying a local minima of said clustering.

Claim 4 (Original): The method of claim 1, wherein said clustering comprises a k-means clustering algorithm.

Claim 5 (Previously Presented): The method of claim 2, wherein said minimizing distortion of individual clusters includes taking said data records and iteratively determining *Voronoi* partitions until said objective function, between two successive iterations, is less than a specified threshold.

Claim 6 (Original): The method of claim 1, wherein said clustering comprises analyzing word data, and said feature vectors comprise multiple-word frequencies of said data records.

Claim 7 (Previously Presented): The method of claim 1, wherein said clustering comprises analyzing data records having numerical and categorical attributes, and said feature vectors comprise linearly-scaled numerical attributes.

Claim 8 (Previously Presented): A method for evaluating and outputting a clustering solution for a plurality of multi-dimensional data records, said data records having multiple, heterogeneous feature spaces represented by feature vectors, said method comprising:

defining a distortion between two said feature vectors as a weighted sum of distortion measures on components of said feature vectors;

clustering said multi-dimensional data records into k-clusters using a convex programming formulation of a generalized k-means clustering function; and

selecting optimal feature weights of said feature vectors by an objective function to produce said solution of a final clustering that simultaneously minimizes average intra-cluster dispersion and maximizes average inter-cluster dispersion along all said feature spaces.

Claim 9 (Original): The method of claim 8, wherein said clustering includes initially applying a local minima of said clustering.

Claim 10 (Previously Presented): The method of claim 8, wherein said minimizing distortion of individual clusters includes taking said data records and iteratively determining *Voronoi* partitions until said objective function, between two successive iterations, is less than a specified threshold.

Claim 11 (Original): The method of claim 8, wherein said clustering comprises analyzing word data, and said feature vectors comprise multiple-word frequencies of said data records.

Claim 12 (Previously Presented): The method of claim 8, wherein said clustering comprises analyzing data records having numerical and categorical attributes, and said feature vectors comprise linearly-scaled numerical attributes.

Claim 13 (Previously Presented): A computer system for data mining and outputting a final clustering solution, wherein said system includes a memory for storing a database having a plurality of multi-dimensional data records, each having multiple, heterogeneous feature spaces represented by feature vectors, said system including a processor for executing instructions comprising:

defining a distortion between two feature vectors as a weighted sum of distortion measures on components of said feature vectors;

clustering said multi-dimensional data records into k-clusters using a convex

programming formulation; and

selecting feature weights of said feature vectors,

wherein said instruction for selecting said feature weights are optimized by implementing an objective function to produce said solution of a final clustering that

Claim 14 (Cancelled).

Claim 15 (Original): The system of claim 13, wherein said instruction of said clustering includes an instruction for initially applying a local minima of said clustering.

Claim 16 (Original): The system of claim 13, wherein said instruction for clustering includes instructions for implementing a k-means clustering algorithm.

Claim 17 (Previously Presented): The system of claim 13, further comprising an instruction for minimizing distortion of individual clusters including taking said data records and iteratively determining *Voronoi* partitions until said objective function, between two successive iterations, is less than a specified threshold.

Claim 18 (Original): The system of claim 13, wherein said instruction for clustering includes instructions for analyzing word data.

Claim 19 (Original): The system of claim 13, wherein said instruction for clustering includes instructions for analyzing data records having numerical and categorical attributes.

Claim 20 (Currently Amended): A program storage device readable by machine, tangibly embodying a program of instructions executable by said machine to perform a method for evaluating and outputting a final clustering solution from a set of data records having multiple, heterogeneous feature spaces represented as feature vectors, said method comprising:

defining a distortion between two feature vectors as a weighted sum of distortion measures on components of said feature vectors;

clustering said multi-dimensional data records into k-clusters using a convex programming formulation; and

selecting feature weights of said feature vectors,

wherein said selecting of feature weights are optimized by an objective function to produce said solution of a final clustering that simultaneously minimizes average intra-cluster dispersion and maximizes average inter-cluster dispersion along all said feature spaces.

Claim 21 (Cancelled).

Claim 22 (Original): The device of claim 20, wherein said clustering includes initially applying a local minima of said clustering.

Claim 23 (Original): The device of claim 20, wherein said clustering comprises a k-means clustering algorithm.

Claim 24 (Previously Presented): The device of claim 20, wherein said minimizing distortion of individual clusters includes taking said data records and iteratively determining *Voronoi*

partitions until said objective function, between two successive iterations, is less than a specified threshold.

Claim 25 (Original): The device of claim 20, wherein said clustering comprises analyzing word data, and said feature vectors comprise multiple-word frequencies of said data records.

Claim 26 (Previously Presented): The device of claim 20, wherein said clustering comprises analyzing data records having numerical and categorical attributes, and said feature vectors comprise linearly-scaled numerical attributes.